

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE THE APPLICATION OF:

:

Harald SCHWAHN, et al.

: GROUP ART UNIT: 1797

SERIAL NO.: 10/551,239

: EXAMINER: HINES, LATOSHA D.

FILED: September 28, 2005

FOR: FUEL COMPOSITION

DECLARATION UNDER 37 C.F.R. §1.132

ASSISTANT COMMISSIONER FOR PATENTS

WASHINGTON, D.C. 20231

SIR:

Now comes Harald SCHWAHN, who deposes and states that:

1. I am a graduate of Heidelberg University and received my degree in the year 1984 in chemistry (Master of Science) and in 1989 in physical chemistry (Ph.D.).
2. I have been employed by BASF SE for 20 years as a chemist in the field of additive development.
3. The following experiments were carried out by me or under my direct supervision and control:

Further experiments for different additive/alcohol combinations and their influence on intake valve deposits (IVD) were performed. The graphical illustration as attached hereto summarizes these experimental results.

In order to supplement the experimental results already contained in Table 2 (Example 4) of the original specification (additive PIBA in the absence of ethanol, or in the presence of 10 vol% or 50 vol% ethanol) as well as the data referred to in my previous declaration signed on April 17, 2009, a series of further engine tests has been performed (corresponding to Example 4) wherein fuel supplemented with

ethanol in the range of 10 – 100% has been tested in the presence or absence of additive (PIBA containing additive; trade name Keropur). At the end of each engine test IVDs have been examined.

For performing the engine test, the additive had been added to a standardized gasoline fuel (Haltermann 1308) supplemented with increasing amounts of ethanol and was tested vis-à-vis corresponding base runs (without additive). The following fuels were tested:

Designation	% Ethanol
E 10	10
E 50	50
E 70	70
E 85	85
E 100	100

Test engine and test conditions can be taken from the legend to said attached graphical illustration of the experimental results.

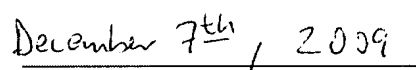
The experimental results show that (additive) PIBA (i.e. Keropur), if combined at constant dosage (200 mg/kg dosage) with ethanol in a proportion of 10 – 100% (i.e. E 10 to E 100), surprisingly improves (i.e. reduces) IVD more efficiently than in the absence of ethanol (as further illustrated by the two graphs diverging more readily than expected as the ethanol concentration increases from 10% to 85%).

Accordingly, this additional data provides further evidence of the surprising finding of the invention that the combination of said type of gasoline fuel additive (PIBA) and lower monoalcohol (ethanol) has a synergistic effect on the reduction of intake valve deposits over a wide range of alcohol content, even extending beyond the claimed range of 10 - 75%.

4. I declare under penalty and perjury under the laws of the United States of America that the foregoing is believed to be true and correct. 28 U.S.C. §1746 (1).

A handwritten signature in cursive script, reading "Harold L. Lwahn", written over a horizontal line.

(Signature)

A handwritten date "December 7th, 2009" written over a horizontal line.

(Date)

Annex:

Graphical Illustration (1 page)

INTAKE VALVE CLEANLINESS

Engine: FORD FFV (10/11) - SAAB cycle

Duration: 60h; Oil: RL-223/4; Fuel: from E10 Haltermann 1308 to E100 BASF-EtOH 1366

